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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,364	11/12/2003	Kazuo Kobayashi	51508/DBP/A400	1459

23363 7590 03/22/2005

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EXAMINER

COLEMAN, WILLIAM D

ART UNIT PAPER NUMBER

2823

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/712,364

Applicant(s)

KOBAYASHI, KAZUO

Examiner

W. David Coleman

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04/04</u> . | 6) <input type="checkbox"/> Other: _____ |

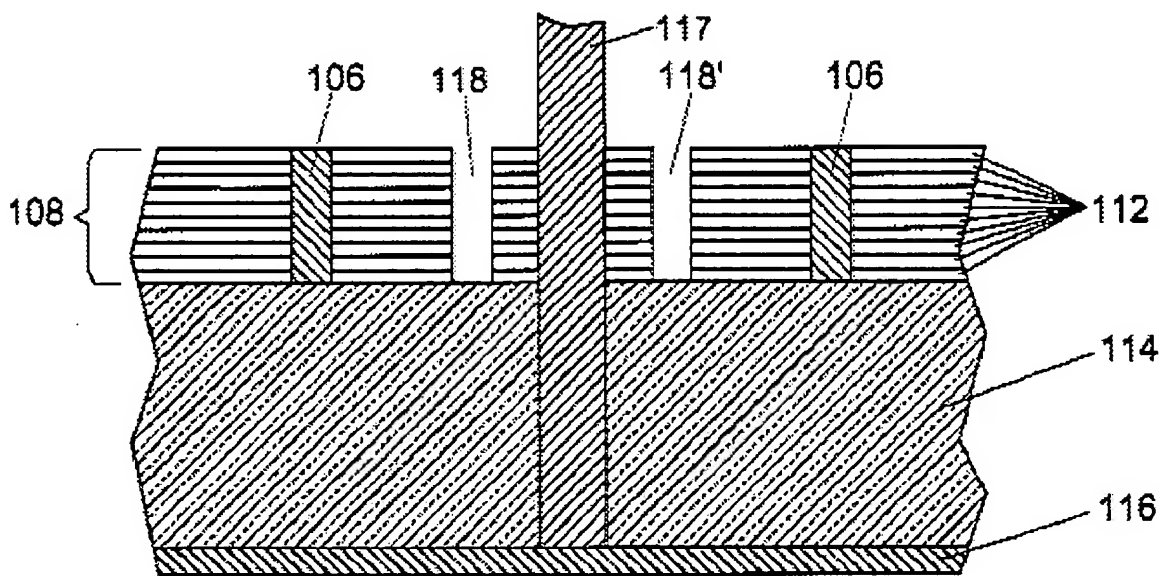
DETAILED ACTION***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Mulligan et al., 6,839,299 B2.



3. Mulligan teaches a semiconductor process as claimed. See FIGS. 1-19, where Mulligan teaches the following limitations.
4. Pertaining to claim 1, Mulligan teaches a substrate machining method for machining a substrate, comprising the step of cutting the substrate from its one surface as a disk-like blade is

Art Unit: 2823

rotated; and irradiating with laser light the edge of a cut surface, of the substrate, that is located in the vicinity of the other surface.

5. Pertaining to claim 2, Mulligan teaches a substrate machining method according to claim 1, wherein the entirety of the cut surface of the substrate is irradiated with the laser light (column 4, lines 15-35).

6. Pertaining to claim 3, Mulligan teaches a substrate machining method according to claim 1 or 2, wherein the laser is a YAG laser or a CO₂ laser.

7. Pertaining to claim 4, Mulligan teaches a substrate machining method according to claim 1, wherein a dicing tape 116 is adhered to the other surface of the substrate 114; and the laser light is irradiated after cutting only the substrate and expanding the dicing tape.

8. Pertaining to claim 5, Mulligan teaches a substrate machining method according to claim 1, wherein the laser light is irradiated onto a street that has been already formed and is different from a street being formed by cutting the substrate by the disk-like blade 117.

9. Pertaining to claim 6, Mulligan teaches a substrate machining method according to claim 1, wherein the laser light is irradiated onto a street, that is being formed by cutting the substrate by the disk-like blade, while following the movement of the disk-like blade.

Art Unit: 2823

10. Pertaining to claim 7, Mulligan teaches a substrate machining apparatus for machining a substrate, comprising:

a disk-like blade that is rotated to cut the substrate from its one surface; and
a laser light irradiating portion for irradiating a laser light to the portion, of a cut surface of the substrate, that is located in the vicinity of the other surface of the substrate.

11. Pertaining to claim 8, Mulligan teaches a substrate machining apparatus according to claim 7, wherein the laser light irradiating portion can irradiate the laser light onto the entirety of the cut surface of the substrate.

12. Pertaining to claim 9, Mulligan teaches a substrate machining apparatus according to claim 7 or 8, wherein the laser light irradiating portion is a YAG laser light irradiating portion or a CO₂ laser light irradiating portion.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is 571-272-1856.

The examiner can normally be reached on Monday-Friday 9:00 AM - 5:30 PM.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2823

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



W. David Coleman
Primary Examiner
Art Unit 2823

WDC